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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/905,000 | 07/13/2001 | Masaaki Takagi | M1951-2 | 3447 |

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EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,000

Applicant(s)

MASAAKI ET AL.

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first, second, third thickness as claimed in claims 3,5,and 7, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 9 is objected to because of the following informalities: On page 19 line 23 the word rotor needs to be corrected to spell rotor. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On page 17, line 6, "said fifth and sixth sections" needs to be

clarified as to whether the applicant regards the sections to be the wall sections or arcuate sections; for purpose of continuation of examination the examiner will regard the sections as the wall sections.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On page 17, line 23, the "plurality of poles" is unclear to the examiner as to whether the applicant is referring to the claw-poles or the magnetic poles, clarification is requested by the examiner. On page 18, line 2 "said first and said case units: needs to be clarified as to what the applicant is disclosing in the claim for the purpose of continuation of examination the examiner will regard the statement to be – said first and said second case units--.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On page 18, line 9, the "case units including a magnetic material" is not clear as to the examiner as to whether the case is made of magnetic material or if there is another object that is of magnetic material this needs to be clarified to the examiner. On page 18, line 11, the "case units having a shape supporting said rotor" needs to be clarified as to what type of shape supports the rotor. On page 19, line 4, the "plurality of poles ", needs to be clarified as to which poles the applicant is referring too, whether it is the claw poles or the magnet poles.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On page 19, line 20, the "case units including a magnetic material" is not clear as to the examiner as to whether the case is made of magnetic material or if there is another object that is of magnetic material this needs to be clarified to the examiner. On page 21, line 11, the "case units having a shape supporting said rotor" needs to be clarified as to what type of shape supports the rotor.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On page 21, line 1, the "magnetic plate having a shape" is indefinite as to what the shape maybe, the applicant needs to clarify the shape of the magnetic plate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims s 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Prior Art (APA) and further in view of Nobuaki et al. (J.P. Patent Application 09-238400).

Applicants Prior Art discloses in Figure 5, a claw-pole permanent magnet stepping motor (100) of magnetic material, having a first case unit (112) aligned with a second case unit (113), a rotor (102) having at least two permanent magnets (102) with the first (112) and the second (113) case units having a shape supporting the rotor (102). Two arcuate sections on the first (112) and second (112) case units, with two-sidewall sections joining each respective arcuate section in a continuous flattened-oval section about the rotor (102). The arcuate sections each have a diameter (L1) and a ratio of total length (L2) to the diameter of at least 1:1 or 2:1. The wall sections having a planar shape and closer to the rotor (102) than the two arcuate sections, with the first case unit (112) having a flattened-oval cross-section. A bearing (115) in the first (112) and second (113) case unit, the rotor (102) is supported between the bearings (115) with a plurality of poles on the permanent magnets (103). A first (A) and second (B) phase inductor in the first (112) and second (113) unit case opposite each permanent magnets (103). The first (A) and second (B) phase inductors are symmetrical in the first case unit (112) and the first (A) and second (B) phase inductors from the magnetic plates, that a first (108) and a second (109) coil with a set of connectors. The first (112) and second (113) case units having a shape supporting the rotor (102); The first (A) and second (B) phase inductors are formed from at least two magnetic plates having multiple claw-poles and a first (108) and a second (109) coil with a set of connectors.

The first (112) and second (113) case units having a diameter with a ratio of the length of at least 1:1 or 2:1. A securing section (114) detachably attached to an outside side surface of at least one of the first (112) and second (113) case unit. The securing section (114) containing an externally threaded section and fixed to an external attachment base of the claw-pole permanent magnet stepping motor (100). Each coil (108-109) includes a coil bobbin with an insulated copper wire wrapped around the coil bobbin. A connector to the coil bobbin includes a first and second collar. The connector disposed at one of the first and second collar orthogonal to the coil. The coil bobbin having a flat oval shape with arcuate sections. However Applicants prior art does not disclose arcuate sections having a thickness different from the thickness of the wall sections.

Nobuaki et al. discloses in Figure 4, two arcuate sections (9) each having a greater thickness than the two wall sections (9c-9b), in order to reduce the diameter of the rotor and the number of turns in the coil.

It would have been obvious to one of ordinary skill in the art to combine Nobuaki et al. with the applicant's prior art in order to reduce the diameter of the rotor and the number of turns in the coil.

In regards to Claims 6 and 7 the selection of a metal bearing, as a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416.

Application/Control Number: 09/905,000
Art Unit: 2834

Page 7


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE
October 1, 2002


NESTOR RAMIREZ
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